Need-Based Financial Aid and Student Success in XX College in Central China

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Abstract

In the late 1990s, China's central government introduced several kinds of student financial aid with the aim of guaranteeing that students could afford higher education regardless of economic background. The purpose of this study is to examine whether financial aid does impact student achievement by assessing grade point average (GPA). It also explores the impacts of socio-economic background on student success to identify the underlying factors that contribute to academic success.

This study uses a quantitative method to investigate the social and economic factors that possibly influence student behavior. The sample population from in College XX, and the data were gathered with the quantitative method of a self-completion questionnaire.

The results of this study indicate that student expectations differ across genders, and student persistence differs across fathers' educational levels among receivers. The analysis also revealed an association between gender and student's GPA, the parents' educational level and student's GPA, financial aid and student's GPA. The students who received financial aid at least once in college earned higher mean GPA scores than the students who have never received it. This study also finds out there is no significant interaction effect among family origin and financial aid on student GPA or among parents' educational level and financial aid on student GPA.

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Abbreviations:

ANOVA	Analysis of Variance
CEE	College Entrance Exam
GCSLS	General-Commercial Student Loans Scheme
GDP	Gross Domestic Product
GPA	Grade Point Average
GSSLS	Government-Subsidized Student Loans Scheme
HEI	Higher Education Institutions
MOE	Ministry of Education

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Chapter 1 Introduction

In this chapter, I will present the background and rationale of the study, and then explain the research questions and empirical study. The structure of this study is illustrated lastly.

1.1 Background and Rationale of the Study

Financial aid is critical to increasing the success of college students with financial difficulties. Different financial aid programs help students and their families to afford higher education regardless of their economic background. Informing students and their families about this aid early in the students' academic careers greatly helps them to make the right choices and plans regarding family savings, work and earnings, and college options.

Higher education in China and this expansion has come at the cost of soaring tuition and fees. Tuition rose by four times between 1997 and 2006, increasing from 1620 Yuan to 4500 Yuan per student per year (Cui, 2007； Yu, 2008). Among rural families, the income of living at the poverty line is around 1000 Yuan per capita (National Bureau of Statistics, 2008), whereas paying for a four-year college education is equivalent to almost 6000 Yuan per capita. According to Liu, Luo, Liu, and Zhang (2007), in addition to their own savings, parents of students from poor rural area often go heavily into debt—borrowing up to 62% of the necessary funds for their children's college education from family, friends and fellow villagers.

The Chinese government has been introducing various types of student financial aid since the late 1990s in response to public concerns about the rising private cost of college attendance of individual students and their families (Prashant, Song and Wei 2012: 898). Thus, financial assistance from governmental and non-governmental sources has increased in recent years to address the rising college costs. Nevertheless, little is known about how aid is currently distributed across the colleges, such as,

whether the financial aid successfully reaches needy students and whether it contributes to the student success.

It is difficult to know how the financial aid is distributed across the higher education system because several factors influence the distribution process. First, various financial aid programs (e.g., provincial and central governments, and banks) have different criteria for how aid should be assigned to HEIs (Higher Education Institutions) and students. Second, HEIs can decide whether to set up their own criteria for distribution. Third, students and parents lack information about the process of applying for financial aid. Altogether, it may be difficult for students and their families to know the bottom line: whether they will receive aid if they go to college and how much aid they would be likely to receive (Prashant, et al., 2012: 898). College administrators and policymakers may not know whether the aid has reached the targeted students or whether the aid has an impact on a given student's achievement.

With increasingly scarce state funding and rapidly rising tuitions, higher education institutions are under increasing public pressure to show that educational expenditures produce quantifiable improvements in student learning (Nettles and Cole, 2001; Zumeta, 2001). In other words, institutions are under public pressure to justify state subsidies and rising tuitions with demonstrable gains in student learning (Stater, 2009). Due to the expansion of higher education in China, a great number of students had the chance to enter the colleges. The government must input more funding into the college student financial aid to ensure that most of the students who have financial problems can complete their studies. However, before the government redirects this funding, it should know whether financial aid produces quantifiable improvements in student learning, such as in persistence and in GPA.

When this thesis refers to academic success, it is invoking numerous indicators, such as college persistence and completion, the accumulation of knowledge, student's motivation, student's expectation and achievement in the society after graduation. There are many different ways to measure success, but the most straightforward is the

students' grade point average (GPA), because it is a reflection of each student's working knowledge and academic effort, and has the practical advantage of being measurable for every student who completes at least one semester (Stater, 2009).

1.2 Research Questions

The main research question of this study is: does financial aid policy affect student's completion rate and the other forms of student success? In this study, student's success refers to high GPA, the presence of learning motivation and learning expectation. The central question of this study is whether financial aid influences student success, which is also a kind of measure to indicate student success. The study also explores some other aspects, such as whether the student's family origin, gender, and parents' educational level influence the student's GPA, persistence, learning motivation, and expectations. The study will compare the aspects of family origin, gender, parents' educational level, and financial aid to find out whether these aspects influence persistence, motivation, expectation, and GPA. Ultimately, the study is attempting to discover whether financial aid impacts a student's persistence, motivation, expectations, and GPA and to evaluate whether the students who have received the financial aid were more successful in their studies than students without the aid.

1.3 Introduction to the Empirical Study

The members of the sample population in the study were either English Department or Computer Science Department in XX College in China. The researcher interviewed one instructor in each department informally to find out the process of choosing financial aid receivers. The instructors in each department may make the decision to offer financial aid to specific students and give the qualified list to the financial aid office. The researcher uses a questionnaire survey for collecting data. The researcher designed eleven questions (including one open question) for the questionnaire survey,

and they concern academic major, gender, financial aid involvement, family origin, parents' educational level, student persistence, student motivation, student expectations and student GPA.

The purpose of the student questionnaire is to explore the impacts of gender, financial aid and socio-economic background on student success. Family origin indicates economic background, and the parents' educational level indicates social background. Student success includes many indicators: persistence, motivation, expectation and GPA. The GPA reflects knowledge and academic effort, and has the practical advantage of being measurable.

1.4 Structure of the Thesis

The first chapter presents the background of this study, the research questions and an outline of the empirical research.

Chapter 2 describes the context, which is basically the Chinese educational system and financial aid system. The first part gives a short introduction of the Chinese educational system from basic education to higher education. The introduction includes the college entrance exam system. Finally, it overviews the Chinese financial aid policies.

Chapter 3 deals with theory and concept. First, it discusses the main concepts in the study such as student success, educational equity and financial aid. Later, it outlines the relevant theoretical framework which includes student choice theory, human capital theory and cultural theory.

Chapter 4 describes the study's methodology, which is in the form of a questionnaire. The chapter explains the source of the data, introductions the variables, and discusses

validity and reliability issues. The research design and methodology will be discussed in detail, as well.

Chapter 5 reports the main results that pertain to the research questions. These results arose from a data analysis of the questionnaires. The last chapter concludes the empirical study and the effects of financial aid, discusses the limitations of the study, and provides the implicational for the future research. The researcher hopes that data analysis and the discussion will indicate how policy makers can create a much more efficient, reasonable, and practicable financial aid policy.

Chapter 2 Chinese Education System, Financial Aid Policy, and Chinese Society

This chapter introduces the Chinese education system, financing of higher education, financial aid policy and Chinese society. It will explain how institutions implement financial aid to help students from a poor background to attain higher education. The first part talks about the Chinese college entrance exam and education system. Then, it focuses on the policies of two kinds of financial aid programs in Chinese higher education. Finally, it introduces *Hukou* system and Chinese parents.

2.1 Chinese Education System

The formal education system of China comprises six years of elementary schooling, three years of junior secondary schooling, three years of senior secondary schooling and higher education (Sheng and Li, 2003). In China's education system, compulsory education corresponds to elementary and lower-secondary education for a nine-year learning period (Sheng and Li, 2003). China's higher education includes undergraduate education and postgraduate education. Undergraduate education includes bachelor education and vocational education. Bachelor education (called *Benke* in Chinese) lasts for four years, and successful completion results in a bachelor degree. The focus of *Benke* is on academic study. Vocational education (called *Zhuanke* in Chinese) lasts for three years, results in a vocational certificate and focuses on professional training. Finally, postgraduate education includes master-level education and doctoral education.

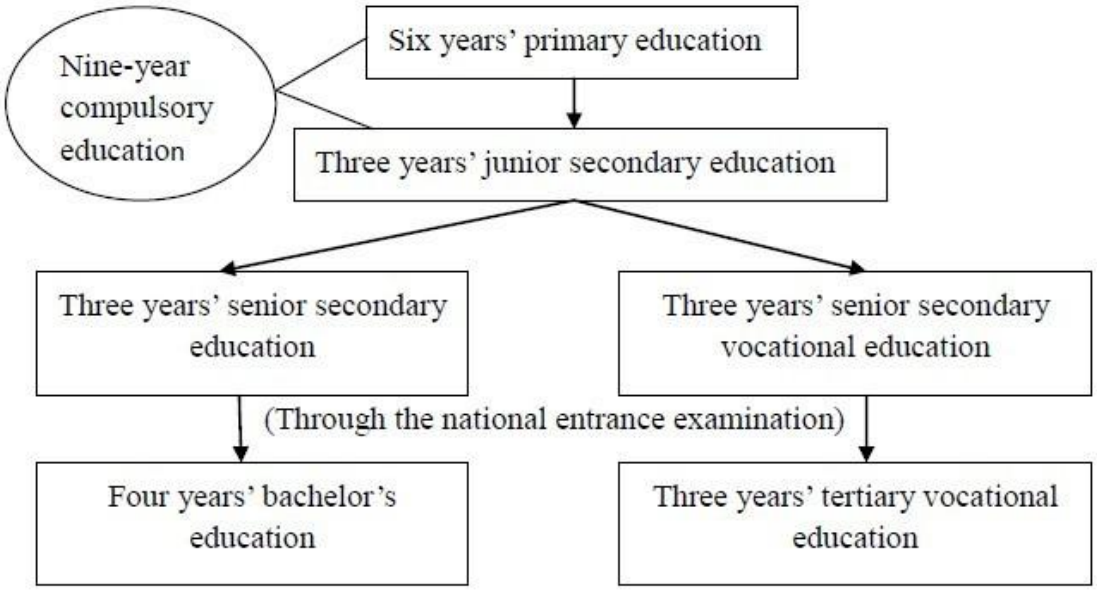

Figure 1 The structure of education in China

After nine years of compulsory schooling, students study hard for upper secondary education. Upon entering upper secondary school, student must choose between two tracks: a science/engineering track or a social science track. All students have three main subjects to learn: Chinese, Mathematics, and English. Otherwise, students taking different tracks must learn different subjects. A student of science/engineering needs to learn chemistry, physics, and biology, and a student on the social science track needs to learn political ideology, history, and geography (Sheng and Li, 2003).

The Chinese Ministry of Education holds a college entrance exam every year to determine whether students qualify to go to a higher education institution according to the student's exam grade. The most fundamental feature of China's college entrance exam (CEE) system is that a student's admission into a college is based on two traits. One is student's performance on the CEE itself (*Gaokao*); the other is how the student fills out the college admission form (*Zhiyuanbiao*) (Sheng and Li, 2003). China's CEE takes place over the course of two days on June 7 and 8. Each student takes exams on four subjects. All students take the same Chinese and English exam, but the two other subjects vary between the science/engineering and the social science students.

After the CEE exam, students fill in the admission form to choose which subject and college or simply which college that they would like to attend, but some of the provinces allow students to hand in their application forms before the exam (Sheng and Li, 2003). Therefore, students in the latter provinces must choose their ideal colleges before the exam. Most of the colleges will list their tuition fees in a booklet, thus, the students could choose their ideal colleges from the view of tuition fee (Sheng and Li, 2003). However, the booklet is short of information about how much financial aid that they can request from each institution and whether the financial aid would cover part of the tuition fee, so it lacks explanations of how the financial aid works. Fortunately, some of the universities and the Ministry of Education (MOE) offer this information on the internet.

After the exams are graded, every college determines its own lowest cut off line in the CEE scores for admission. Then, the students can check the lowest cut off the lines, and choose among the colleges for which they qualify.

Finally, students go to the selected college with their admission letters, register into study programs and pay their tuition fees. On average, students must pay more than 5000 Yuan upon entry (Cui, 2007). If they are able to pay this amount, then they become the official students. If they cannot, then the college will not enroll them. Each college has some financial aid programs that are meant to help students from families with financial difficulties that are unable to pay tuition fees. Nevertheless, some students from families with financial difficulties have passed the CEE exam yet were denied admission because they could not pay the tuition (Liu. et al., 2011).

2.2 Financing of Chinese Higher Education

In the Chinese higher education system, enrollment is expanding while the funding from the central government is declining, so the public is demanding greater quality

and efficiency, and market orientations and solutions are ascending. Thus, a new mechanism of administration and financing has emerged to help Chinese colleges to change (Rich, Giles, and Stern, 2001). There are, in all, nine sources of financing for higher education in China: state appropriation, tuition costs and fees, education levies, support from school or college-affiliated enterprises, donations from individuals and social organizations, educational foundations, research funding through competitive mechanisms, educational loans, and revenue from financial capital and market operations (Min, 2001).

Tuition costs rose year by year along with the expansion of higher education and the increase of the operational budget of higher-education institutions (Sheng and Li, 2003). In 1997, the average tuition of the higher education institutions was 1,620 Yuan, while the average institutional recurrent cost per student was 8,350 Yuan (Sheng and Li, 2003). The total enrollment number was about 3, 17 million during that year. In contrast, the average tuition reached 1,974 Yuan in 1998, while the average cost per student rose to 11,020 Yuan, and the total enrolment number was 3, 41 million. In 1999, average tuition reached 2,769 Yuan while average institutional recurrent cost per student increased to 14,400 Yuan, and the total enrolment number was above 4 million (Wen and Wei, 2001).

Table 1 shows the increase in tuition cost and its proportion to gross domestic product **(**GDP**)** per capita and income per resident from 1996 to 1999 (Sheng and Li, 2003). From this table, we can see clearly that the increase in the rate of tuition cost reached 40.3%. Tuition cost as a proportion of disposable income per urban resident rose about 47.3% (Sheng and Li, 2003), and, as a proportion of net income per rural resident, it exceeded 100% and eventually reached 125.3% in 1999.

Table 1 Overall tuition cost

	1996	1997	1998	1999
Tuition cost (Yuan)	1,319	1,620	1,974	2,769
Increase in rate of tuition cost (%)		22.8	21.8	40.3
Tuition cost as a proportion of GDP per capita (%)	23.7	26.8	31.3	42.4
Tuition cost as a proportion of disposable income per urban resident (%)	27.3	31.4	36.4	47.3
Tuition cost as a proportion of net income per rural resident (%)	68.5	77.5	91.3	125.3

Source: (1) Statistics of tuition and unit cost are from the Ministry of Education.
(2) The computation to the proportions is from Li and Min, 2001.

2.3 Student Financial Aid Policies

According to MOE (2007), financial aid programs are meant to finance the colleges' full-time students from poor families, so they cover part of the cost of living for these students. The average amount of need-based financial aid is 2000 Yuan per year per student. Aid comes in three levels: 1000, 2000, or 3000 Yuan per year per student. The basic eligibility criteria are: 1. Love the socialist motherland, and support the leadership of the Communist Party of China; 2. Abide by the Constitution and laws, comply with school rules and regulations; 3.Be honest and trustworthy; 4.Study hard, and stay motivated; 5. Be from a poor family (Ministry of Education, 2007).

Cost-sharing schemes and revenue diversification have contributed to continuous erosion in per student public expenditure, even though the fiscal appropriation for tertiary education has experienced robust growth during the same time period (Bao and Liu, 2009). To deal with the inadequate budget, public institutions are raising their tuition and fee levels at an accelerated rate. To break credit constraints for

low-income students, the Chinese government integrated its student aid system and implemented a substantial expansion of student aid programs in 2005 (Wang et al, 2008). Although aid coverage has grown rapidly, aid beneficiary is still a small proportion of the current college population. For instance, student loans covered only 4.6% of the total enrollment in 2006 (Wang et al, 2008). Thus, tuition growth and aid expansion has changed the higher education in China from a "low-tuition/low-aid" system to a "high-tuition/ relatively low-aid" system.

There are two kinds of financial aid programs for college students in China: student loans and need-based financial aid.

Student Loans

In December 1999, the 'Regulation on Student Loans Administration' submitted by the three ministries (People's Bank of China, Ministry of Education and Ministry of Finance) commenced the General-Commercial Student Loans Scheme (GCSLS) (Hong and Li, 2003). Student loans exist to help the target students to finish their college studies smoothly. Qualification for this type of loan is based on financial need (Hong and Li, 2003). The GCSLS is for all students in higher-education institutions, and enables them to borrow from a local bank. The interest rate of the GCSLS is the market interest rate without subsidy from the government (Hong and Li, 2003). The amount of the loan for each student is around 2,000-20,000 Yuan maximum. In August 2000, the 'Supplemental Regulation on Student Loan Administration' by the three ministries (People's Bank of China, Ministry of Education and Ministry of Finance) commenced the Government-Subsidized Student Loans Scheme (GSSLS). GSSLS is only for students from families with financial difficulties. GSSLS policy requires every regular higher-education institution to find one lending bank. The loan coverage and loan size should reach a certain level (Hong and Li, 2003). Unlike the GCSLS, the government subsidizes half of the interest rate for the GSSLS, but the maximum is around 8,000 Yuan per an academic year.

Need-based Financial Aid

Need-based financial aid does not need to be repaid; however, not everyone can receive it. This aid should be awarded to students based on economic difficulties in order to help some poor students to attend and finish college. The Ministry of Finance locates money to each college in October once a year. The main purpose of the money is to cover parts of the living cost of the target students.

Need-based financial aid is an economically disadvantaged family student fund. Qualification is mainly based on family income. The average of need-based financial aid had been around 2,000 Yuan per year per student before 2010. After 2010, the funding standard raised from 2000 to 3000, benefiting 4.3 million low-income family students and, accounting for 20% of the total number of students (Ministry of Education, 2007). Students who would like to apply for need-based financial aid must fill in an application form, and they are required to get a document from their hometown government office to verify their low-income status (Phashant et al., 2012: 901). Further application procedures depend on individual colleges. Every university has a financial aid office that provides information about applying for this aid.

After the students fill in the application forms, the instructor will decide which one may receive the financial aid. Of course, the instructor is not the only one to decide who should receive the financial aid. Qualification also depends on the students' family background (every student will turn in the forms of their family background when they enter the college). A student's classmates in the class also have the opportunity to give their opinion to the teachers, regarding whether the candidate is qualified for financial aid.

2.4 Chinese Household Registration System

A *Hukou* is a record in the system of Chinese household registration that presents family origin in China. A household registration record officially identifies a person as a resident of an area and includes other identifying information such as name, parents, spouse, and date of birth (Wikipedia, 2013). The Chinese government officially announced that the government uses the *Hukou* system to control the movement of people between urban and rural area (Wikipedia, 2013). Therefore, it broadly categorizes individuals as rural or urban workers (Calum, 2001). Urban areas in China include cities, counties and towns, whereas rural areas include townships and villages (National Bureau of Statistics of the P.R. China, 2006). China Science Publishing announced that the income gap between China's urban and rural residents in 2009 was 3.3 to 1 (China State Council, 2006). If we include the welfare benefits of urban residence, the gap rises up to 6 to 1 (China State Council, 2006). The rural-urban income gap is the main reason for the income inequality, and the disparity between rural and urban incomes in China is amongst the biggest in the world (Wang, Piesse, and Weaver, 2010). Chan (2010) indicates the household registration system "has segregated the rural and urban populations, initially in geographical terms, but more fundamentally in social, economic, and political terms". Household registration also determines several kinds of welfare services, including housing, employment, social insurance and education (Goodburn, 2009; Yang, 2009). The disparity between urban and rural area looks even greater when one takes into account other influences on the quality of life such as welfare benefits and infrastructure (Sicular, Yue, Gustafsson, and Li, 2007). In short, the rural-urban income gap may influence a family's education investment.

2.5 The Influence of Parents' Education

Zhang and Carrasquillo (1995) state that Chinese parents are renowned for their willingness to sacrifice for the sake of their children's education. Parents therefore have a significant influence on the academic performance of Chinese students (Zhang and Carrasquillo, 1995). Most of the Chinese students try hard to meet their parents' demands and expectations of doing well academically (Zhang and Carrasquillo, 1995). An advantageous cultural circumstance can persuade family members to exhibit positive thoughts, attitudes and manners toward motivation and to possess the aspiration to educate their children (Zhu, 2011). More students from positive families have been found to be academically motivated than the students from disinterested families (Zhu, 2011). The family's cultural capital depends on parent's education (Peng and Treiman, 1993). From the researcher's observation and personal experience, it is a common case of traditional Chinese families that a well-educated father may expect his son to receive at least his level of education, so the parents' educational level is one of the indicators influencing the student success in this study.

2.6 Conclusion

This chapter has briefly introduced Chinese education system. It has also represented two kinds of financial aid programs in China: student loans and need-based financial aid. It then connected this aid to a typical Chinese *Hukou* to demonstrate that rural students are more likely to have a need for aid due to the rural-urban income gap being the main reason for income inequality. The chapter also reported that Chinese parents have a significant influence over students' academic performance and that the parents' educational level is an indicator of the family's social and cultural aspects. In the empirical study that follows, the only focus is whether need-based financial aid influences student success.

Chapter 3 Concepts and Theories

The key concepts of the study are student success, educational equity and financial aid. It discusses whether student backgrounds and financial aid have any effects on student success. This chapter represents the concepts and indicators of student success and three relevant theories. The central question of this study is whether financial aid improves the student success.

3.1 Student Success

Student success in college is a serious issue for policy makers and administrators (Stater, 2009: 782). According to Stater (2009), academic success is a combination of college persistence and completion, the accumulation of knowledge, the development of critical thinking skills, and the ability to function productively in society. The straightforward and intuitive way to measure the academic success is a student's GPA. It is not a holistic measure of academic learning or success, but it is a reflection of knowledge and academic effort and has the practical advantage of being measureable for every student who completes at least one semester (Stater 2009: 783).

Although college can also improve a student's personality, behavior, and social ability, the GPA is still a notable achievement measure, because it is not only a measure of performance in college but also as indicator of career development and future plans. GPA has also been positively associated with rates of college completion and future earnings (Hungerford and Solon, 1987). The present study uses four indicators for student success: persistence, motivation, expectation and GPA.

3.2 Need-based Financial Aid and Educational Equity

Education as an investment should be available to every student. One aim of

need-based financial aid is to increase the educational opportunities and to improve the outcomes for specific equity groups in college. More financial aid programs assume that students' choices have been promoted. Understanding the effect of financial aid on student persistence is central to gauging the efficacy of policies with regard to college completion (Stater 2009: 784). The government, college, and institutions have already made some effort to determine whether financial aid programs help the student to perform better. Stater (2009) pointed out that student finances determine academic outcomes. He also mentioned that financial aid has been shown to positively affect persistence. The aim of this study is to explore whether financial aid truly increases the student success.

3.3 Theoretical Foundation

This section will discuss student choice theory, human capital theory, and cultural capital theory.

3.3.1 Student Choice Theory

St. John (1994) proposed the student choice theory which assumes that the persistence outcome is the result of a sequence of decisions and that these decisions are influenced by family background, educational and environmental influences and policy instruments (Stater, 2009: 786). This theory predicts that finances affect academic achievement, because academic effort is part of the sequence of decisions that lead to persistence (Stater, 2009: 786). If financial aid is the foremost reason for selecting a college, then the student will make the decision to attend a school or complete a degree after comparing the expected and actual costs. Building on the student choice theory, St. John, Paulsen, and Starkey (1996) point out that the choices in the sequence are actually interrelated. After the participants compared the actual and expected costs, they were more willing to internalize and emulate the institution's

standards of success, so they were more focused on their academic efforts and accomplished measurable high achievement (Stater 2009:786). It is possible that social background could influence a student's socially oriented choices (Edward and Chung, 2004: 4). Economic background can also impact student choice. Socio-economic background and financial aid can influence persistence, motivation, and expectation. In this study, family origin is an indicator of economic background, and parents' educational level is an indicator of social or cultural background. I will compare the opinions on persistence, motivation, and expectations that come from different family origins, and different parent's educational levels.

3.3.2 Human Capital Theory

The human capital theory was proposed by Theodore Schultz in 1960, who defined it as an "Investment in Human Beings". The human capital theory assumed that all human behavior is based on the economic self-interest of individuals who are operating within a freely competitive market (Fitzsimons, 1999). Economists seem to agree that education is the key to improving human capital and ultimately increasing the economic outputs of a nation (Becker, 1993). Human capital theory stresses the significance of education as the key to participation in the new global economy (Leroy, 2011). According to Becker (1964), education is considered an investment in human capital by society, higher institution, family and individual, so college applicants like to compare the costs and benefits. Although education begins as an individual or family investment, the student's contributions to society after graduating suggest that education is ultimately the nation's investment. The individuals make the decision of investment in education according to comparison of the discounted costs and future returns of an additional year of education (Hans and Steiner, 2004: 2). The costs of the investment include tuition fee payments, study material expenses, and the indirect cost of deferred participation in the labor market (Erik and Andreas, 2004: 11). College demand and continued persistence will depend on costs (Angela and

Bridget, 2009: 9). Ethel and John (1990) point out, according to human capital, grades index human capital acquired in college. Increasing human capital, in turn, augments job productivity (Ethel and John, 1990: 254). Canton and Blom (2004) point out the investments in education are also risky, because graduates could end up unemployed, and structural shifts in the economy could reduce the worth of the acquired human capital. Risk-averse people might therefore be reluctant to invest in education (Canton and Blom, 2004: 12). From this perspective, financial aid reduces the risk and helps countries, families and individuals to realize the education investment. In essence, discovering whether financial aid improves student success might reveal whether the education investment produces good returns.

3.3.3 Cultural Capital

Bourdieu (1986) argues that human capital theory focuses on explaining the relationship between educational investment and economic investment in the economic field. The academic investment is not only an economic investment but also an investment of culture and culture capital (Bourdieu, 1986). Bourdieu (1973) pointed out that academic success is directly dependent upon the student's cultural capital and on his or her inclination to invest in the academic area. Dumais (2002) introduced the variable of gender to determine the ability of cultural capital to increase educational achievement, and showed how gender and social class interact to produce a variety of benefits from cultural capital. According to Bourdieu (1984), cultural capital is more important to women than men, because women use cultural capital to acquire husbands, and men are more inclined to use cultural capital for educational qualifications and for getting jobs. McClelland (1990) stated that men's professional ambitions are following their habitus, while women with the same ambitions are violating what their traditional habitus dictates. Zhu (2011) mentioned that the cultural environment may influence family members' thoughts, attitudes and manners toward their children's academic motivation and aspiration. Cultural capital

in a family depends on the parents' education (Peng and Treiman, 1993). The present study, it focuses on finding whether or how parents' educational backgrounds and gender relate to student's opinions on persistence, motivation and expectation.

3.4 Conclusion

There are the main concepts in this study which are student success, financial aid and educational equity. This study's concept of success has many indicators, including but not limited to the student's persistence, motivation, expectations and GPA. According to educational equity, financial aid should be distributed to improve both the educational opportunities and the outcomes for specific equity groups in college. The theories in this study provide a useful framework for interpreting the analysis of the impacts of socio-economic background, gender, and financial aid on student success. Parents' educational level is an indicator of social background, and family origin is an indicator of economic background in the study.

Chapter 4 Data and Methodology

The purposes of this chapter are to a) describe the research strategy, b) introduce and discuss the data sources, c) analyze the data with statistical methods, and d) interpret the issues of the data collection.

4.1 Research Strategy

According to Bryman (2008), the two dominant research strategies in social research are quantitative and qualitative research. Every strategy takes a unique approach to social research. Quantitative research strategy emphasizes quantification in the collection and analysis of data, whereas qualitative research usually emphasizes words rather than quantifications in the collection and analysis of data (Bryman, 2008: 22). Quantitative research focuses on the numerical data, whereas qualitative research focuses on the data of words. The former is the deductive strategy that represents the commonest view of the nature of the relationship between theory and social science (Bryman, 2008: 9). The latter is the inductive strategy that represents the relationship between theories and research, and predominantly stresses the generation of theories (Bryman, 2008: 22).

Bryman (2008: 140) describes the quantitative research strategy as entailing the collection of numerical data and as having an objectivist conception of social reality. While conducting this study, I had to collect data from many aspects, such as gender, family origin, parents' educational level, and financial aid, and relate them to students' persistence, motivation, expectations, and GPA. If I expect to conduct a comprehensive analysis, then I must obtain comprehensive data.

This study applies the quantitative research strategy. The purpose of the study is to measure the effect of financial aid on the college students' success, and the most

straightforward aspect to measuring student success is grade point average (GPA). GPA is a reflection of knowledge and academic effort, and has the practical advantage of being measurable for every student who completes at least one semester (Stater, 2009). According to Stater (2009), GPA is an object to be controlled by technical procedures. If one would like to collect data on objective aspects and numbers, then the quantitative research strategy is crucial. Quantitative research strategy can help researchers to examine the process of translating the hypothesis into operational terms (Bryman, 2008: 9). For this study, it is better to have numerical data and to use an inductive strategy to represent the relationship between theories and research.

4.2 The Research Site

This study was conducted at XX College in the XX province of central China. The registration population of XX province is 64,100,000 and only 20,510,000 of those citizens are from urban area. Thus, the population of the rural area is three times larger that of the urban area. XX College is a comprehensive college that offers degree in engineering, humanities, science, management, and social sciences. It has 31 undergraduate subjects, and 12,000 full-time students were enrolled in its four years programs when the research was conducted. The researcher had worked for the college before conducting the present study and this familiarity with the environment made the sample more accessible and comprehensive. The officer in the financial aid office in the college will provide the criteria and number for choosing the qualified students to get financial aid. The instructor in each department is the person who could make the decision of the financial aid offer and give the qualified list to the financial aid office.

This study includes students who major in English or computer science. The subject of English falls within the social science background, while the subject of computer science falls within the science/engineering background. As mentioned before, the students can choose from two tracks in upper secondary school: the

science/engineering track or the social science track.

4.3 The Field Work

The first step of this study was to get information about how to choose financial aid students. According to the information given by students, an instructor is the person who makes financial aid offer decisions. An efficient way is to have an informal interview with the instructors to understand the process of choosing qualified students in order to get financial aid. The study was conducted in the English and Computer Science departments at XX College in China. An instructor who evaluated whether or not the students could receive financial aid in each year group in each department was contacted and interviewed. This only provided one background of the study but not the domain purpose of the study, so there was also an informal interview. One class (fifty students) was chosen in each year group among two departments.

According to Bryman (2008), a research method is simply a technique for collecting data that can involve such instruments as a self-completion questionnaire, a structured interview schedule, or participant observation. This study used a self-completion questionnaire for collecting data.

4.3.1 The Self-completion Questionnaire

As Bryman (2008) mentioned, self-completion questionnaire respondents answer questions by completing the questionnaire themselves (Bryman 2008: 193). The use of a questionnaire is the most appropriate method to collect quantitative data; it is a low-cost and fast way to gather data from an expected large number of respondents (Oppenhiem, 1966). A questionnaire is more convenient for responders because it offers the freedom to complete it at a speed they want (Bryman, 2008).

In this questionnaire, eleven questions (including one open question) were designed

by the researcher. The questionnaire asked about major, grade, gender, financial aid involvement, family origin, GPA, student motivation, student persistence and expectation. The author wanted to compare the success of students between different groups. Bryman (2008) stated that a self-completion questionnaire needs to have fewer open questions to make it easier to answer. The questionnaire for this study only used one open question at the end of the questionnaire: What is your opinion of financial aid policy? This seemed logical and feasible. However, there was an enormous problem with this question: it was hard for the researcher to supervise the completion of the questionnaire, so only a few students answered the open question.

4.3.2 The Questionnaire Survey

According to Bryman (2008), a segment of the population should be selected for investigation. The purpose was to determine whether or not financial aid influences student success. The first step was to define the population of the participants. There were about 8,000 students in the college and 800 students in each of the two departments. There are four grades in the college in Chinese colleges: freshman, sophomore, junior and senior. In each four years program there were 200 students in each year group in each department. One class (50 students) from each year group was chosen in each department. The total number in the samples was 400 chosen for data collection. Table 2 shows the participants of the sample.

Table 2 Participants in the study

	Freshman	Sophomore	Junior	Senior
English	50	50	50	50
Computer Science	50	50	50	50

The reason for choosing two different majors for the samples was because English, as a social science, generally has more female students than male students, while Computer Science has more male students than female students. Because gender is

considered an independent variable, these two departments helped achieve some gender balance in the sample. Table 3 shows there were 151 female students and 49 male students of in the English department while there were 54 female students and 146 male students in the Computer Science department. The total number of female students was 205 and the total number of male students was 195.

Table 3 Gender of the participants

	English	Computer Science	Total
Female	151	54	205
Male	49	146	195

4.4 Variables

In order to prepare a data file, the first step was to set up the structure of the data file by defining the variables (Pallant 2010: 27). The independent variables were the participants' backgrounds, which included financial aid group, family origin and parent's educational level. The dependent variables were the students' intention of completing the studies, GPA, learning motivation and expectation.

The question "If you do not receive financial aid will you have to quit college?" in the questionnaire showed whether or not the aid would influence the students' persistence, this is a subjective view. The original answers are classified into two categories: 0 = no; 1 = yes. GPA is the best way to evaluate a student's success directly. So the participant's GPA is represented from the question "What was your GPA last semester?" In most Chinese colleges the grading system is divided into five categories: A = Excellent (85%-100%); B = Good (75%-84%); C = Satisfactory (64%-74%); D = Pass (60%-63%); F = Failure (0-59%) (Wikipedia, 2013). An instructor at this college was interviewed and she said that in their reports GPA was shown as: A = Excellent (GPA 4); B = Good (GPA 3); C = Satisfactory (GPA 2); D =

Pass (GPA 1); F = Failure (F). The original answers were classified into five categories: 1 = GPA 4; 2 = GPA 3; 3 = GPA 2; 4 = GPA1; 5 = other. This was the best objective evaluation this study could get as an indicator of student success. Although other student performance, like social activities, could be particularly beneficial, this study focused on GPA, which is objective and numerical.

The students' learning motivation was presented with the question "What is your motivation to go to college?" The original answers were classified into two categories: 1 = enhance social standing; 2 = enhance economic status. Because the question was single choice in this questionnaire, it did not allow the students to choose both as their reason for going to school; they could choose only one answer. A student's motivation sometimes changes when social values and beliefs change.

Finally, question ten asked about a student's expectation: "What is your expectation for the future?". The original answers were classified into three categories: 1 = have a high salary job; 2 = have a high social standing job; 3 = continue to post-graduate study. Jobs with high social standing mean the job which is respectable jobs, like government officer, doctor, etc.. Education as an investment is a human capital theory and shows that people like to make the decision for their future plans by comparing the costs and benefits. Social and economic differences may cause differences in future plans for students.

There were six independent variables in this study. The subject is the student was studying was coded as 1 = English; 2 = Computer Science. Gender was coded as 1 = female; 2 = male. And family origin (*Hukou*) was categorized as: 1 = rural; 2 = urban. The independent variable of family origin is an indicator for economic background. Whether the students have received financial aid was expressed from the question "Have you received the financial aid before?", and the answers as: 0 = never; 1 = yes. The education of fathers and mothers was coded as: 1 = primary; 2 = lower secondary; 3 = post-compulsory (upper secondary and higher). Parent's education was

used as the indicator of the participant's family background, which is an indicator for social background.

4.5 Statistical Analyzing Methods

Three statistical techniques were used in this study. First, Chi-square test is used when one wishes to explore the relationship between two categorical variables (Pallant 2010: 217). Second, the t-test statistical method compares the mean scores in two different groups of people or conditions (Pallant 2010: 239). Third, two-way between groups ANOVA tests the 'main effect' for each independent variable and explores the possibility of an 'interaction effect' (Pallant 2010, 265).

4.5.1 Chi-square test for independence

This test compares the observed frequencies or proportions of cases that occur in each of category (Pallant 2010: 217). Each of these variables can have two or more categories, and this test is based on the cross tabulation with the values that would be expected if there was no association between the two variables (Pallant 2010: 217). The Chi-square was run by SPSS version 20. This study tested whether or not there is an association between family origin, gender, and parent's educational level with students' persistence, motivation and expectation. The crosstabulation in this test compares the percentage across the row and column in different categories. This study used significant value to measure if the result was significant. To be significant, the significant value needs to be .05 or smaller, otherwise the result is not significant.

4.5.2 T-test

The independent-samples t-test was used in this study, because some independent variables that were only two categories were considered as two groups, like the independent financial aid group variable which was coded as "0 = non-receiver" and

"1 = receiver". Pallant (2010) mentioned that independent-samples t-test is used when one would like to compare the mean score in two different groups with a continuous variable (Pallant 2010: 239). The comparison groups were satisfied with the conditions of two different groups. This technique was used to find out whether or not there was a significant difference between groups. This study referred to four groups: family origin and GPA, gender and GPA, parents' educational level and GPA and financial aid and GPA. It reported the t-value to show if the result was significant.

Pallant (2010) mentioned that in order to represent the proportion of variance in the independent variable explained by the independent group, it could range the eta squared and Cohen's d Eta squared from 0 to 1. Although SPSS could not provide eta squared values for t-test, it was possible to calculate the effect size which followed the following model and also used the output provided by SPSS.
The formula for eta squared is (Pallant 2010: 243):

$$\text{Eta squared} = \frac{t^2}{t^2 + (N1 + N2 - 2)}$$

For interpreting this value, Cohen (1988) proposed (Cohen 1988: 284-7):

.01 = small effect

.06 = moderate effect

.14 = large effect

4.5.3 Two-way between-groups ANOVA

According to Pallant (2010), comparing the mean scores of more than two groups can be done with analysis of variance (ANOVA). Two-way between-groups ANOVA tells whether or not there are significant differences in the mean scores on the dependent variables between two independent variables and explores the possibility of an

'interaction effect' (Pallant 2010: 250). After using t-test, the study used two-way between-groups ANOVA to explore whether or not it was an interaction effect between independent variables. The output during the two-way ANOVA analysis clearly interpreted the relationship among the variables. Pallant (2010) mentioned that this is useful in understanding the dependent variables together as well as separately (Pallant 2010:271).

4.5.4 Statistical Significance — p-value

In statistical hypothesis testing the p-value is the probability of obtaining a test statistic at least as extreme as the one that was actually observed, assuming that the null hypothesis is true (Goodman, 1999). Statistical hypothesis tests making use of p-values are commonly used in many fields of science and social sciences, such as economics, psychology, biology, criminal justice and sociology, etc (Babbie, 2007). The null hypothesis is rejected if the p-value is less than or equal to the significance level often represented by the Greek letter α (alpha) (Goodman, 1999). The null hypothesis is rejected when the p-value is less than one significance level which is around 0.05 or 0.01. This indicates that the observation of the result is strongly unlikely under the null hypothesis. This study will use statistical hypothesis testing to verify the hypothesis presented before: Financial aid impacts student success. Or if some other reasons are valuable.

There are some problems with p-values. First, sometimes p-values interpret long-term frequency, which means some do not make acceptable sense. Second, some studies show that p-values are sometimes impacted by possibilities that never actually occurred (Wikipedia, 2013). Third, Casson (2011) mentioned that only by changing the way the hypothesis testing question is asked would it be highly possible to get different p-values from exactly the same data, however, that is to be expected as different questions typically have different answers (Casson, 2011).

4.6 Reliability and Validity

According to Bryman (2008), the most prominent criteria for the evaluation of social research are reliability, replication and validity.

Reliability is about whether or not the results of a study are repeatable. This is particularly at issue in connection with quantitative research (Bryman 2008: 31). The instructors were asked whether or not the participants clearly knew their GPA. The instructors responded that the students have a GPA evaluation each semester, and that they have greater confidence if they know their GPA. The questionnaire was unnamed and the instructors asked the students to answer the questions as carefully as possible as it might be useful for their financial aid evaluation later. The questionnaire was checked several times, and friends were asked prior to the study to answer the questions in order to make sure the questions were clear enough to be answered.

Validity is concerned with the integrity of the conclusions that are generated from a piece of research (Bryman 2008: 32). Kleven (2007) mentions four types of validity: construct validity, statistical validity, internal validity and external validity. First of all, construct validity refers to what is meant to be measured and what is actually measured. In this study three theories assume that socio-economic background may lead to different student choice and success, which was adopted as the theoretical foundation. In order to test this assumption, the study selected data like gender, family origin, parent's educational level and financial aid as the indicators of socio-economic background. The study analyzed how these indicators, as independent variables, worked on the dependent variable of a student's success. The random measurement error may have diminished reliability in this study; however, according to Kleven (2007) this kind of error will also reduce the construct validity.

Second, statistical validity is about whether or not a tendency should be considered

substantial enough to be worthy of interpretation (Kleven 2007:226). This study used chi-square, t-test, and two-way between-groups ANOVA to test the level of significance. The interpretation of the statistical results followed the baseline requirement in social science; for example, a p-value or significant number should be lower than 0.05 for an effect to be considered significant and 'worth' representing as a result.

Third, internal validity relates to the issue of causality, which means whether or not a conclusion incorporates a causal relationship (Bryman 2008:32). Sometimes this includes observed phenomena, like students from a low social class having the motivation or expectation of enhancing their social standing, or urban students having higher achievements than rural students. Are these observed connections causal relationships? Does financial aid cause a student success or it produced by something else? This uses two-way between-groups ANOVA to explore whether or not it has the interaction effect between financial aid and the other indicators. Because of this limitation, however, few indicators have been selected to measure the student success and some other indicators were ignored.

Finally, external validity is concerned with whether or not the results of a study can be generalized beyond the specific research context (Bryman 2008:33). In this study, student's family origin indicates economic background and parent's educational level indicates social background. The Sampling method adopted a stratified sampling that covered both rural and urban area and both social science and science/engineering subjects in the college. Parent's educational level covered the primary to post-compulsory levels. Therefore, the sample represented the general population.

4.7 Limitation of the Study

First, the study was carried out at only one college in China and could not be representative of all of China. Second, socio-economic background could include many aspects. The study chose family origin, and parent's educational level to indicate socio-economic background. Last, this study is only focused on the students' persistence, motivation, expectation, and GPA as indicators for student success because these are the most important expressions that indicate student success. Other indicators of student success such as employment and, future income were beyond the study. Therefore, the study only paid attention to student persistence, motivation, expectation and GPA due to data limitations.

Chapter 5 Data Analysis

This chapter is divided into three parts. The first part uses a chi-square test to compare the observed frequencies or proportions of cases (student's persistence, studying motivation, and expectations) that occur in each independent variable (student's family origin, student's gender and parents' educational level). The second part uses a t-test to analyze whether family origin, gender, and financial aid influence the students' GPA. Finally, it uses a two-way between-groups ANOVA technique to explore the possibility of an interaction effect between family origin, financial aid, and parent's educational level on the student's GPA.

5.1 Characteristics of Students

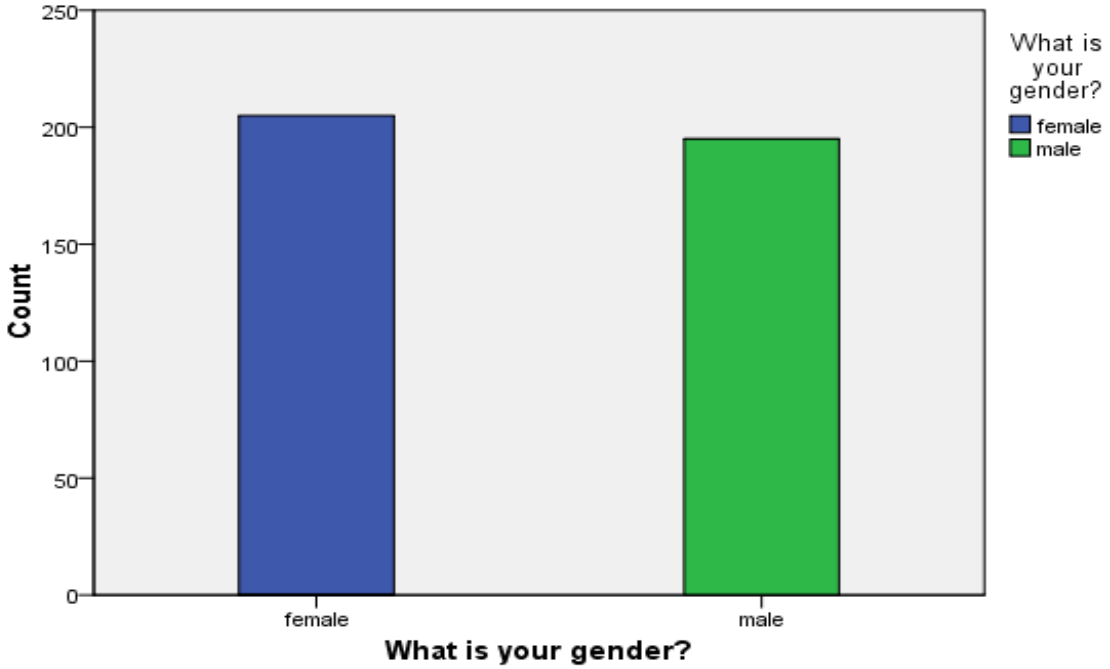

Figure 2 Gender in the study

Gender is considered one of the independent variable. The sample comprised 205 female students and 195 male students, so gender is approximate equally distributed

in the sample (see Figure 2).

Table 4 displays the characteristics of the participants. One hundred and sixty-three of these students have not received financial aid, and the remaining 237 have already received financial aid. In addition, the analysis includes five categories of independent variables: major (English or computer science), family origin (rural and urban), gender (female and male), father's education (primary level, lower secondary level, and post-compulsory level), mother's education (primary level, lower secondary level, and post-compulsory level) and financial aid (receiver and non-receiver). It shows the number and percentage of independent variables in the study. The number of students from rural area is much larger than the number from urban area. For the independent variable of family origin (*Hukou*), 346 students (86.5%) are from a rural area, whereas only 54 students (13.5%) are from an urban area. Most of the students from the urban area preferred a college in a big city, while the students from the rural area preferred colleges in a small city, because the living cost in the small cities is cheaper than it is in the big ones. The preference is also the reason why there are lots of rural students in the sample. The percentage of fathers who are in the primary level of education is about 35.3% and 66.7% of mothers are at the primary level. The proportion of fathers who are in the lower secondary level is 46.3%, whereas about 28.0% of the participants' mothers reached lower secondary level. The percentage of fathers who are in the post-compulsory level (upper secondary and higher) is 18.4%, and mothers' is 5.3%. The proportion of mothers with primary education is larger than the proportion of fathers, whereas the proportion of fathers with lower secondary education is larger than the proportion of mothers. However, in the post-compulsory level, the proportion of mothers is lower than that of fathers. By reviewing the data in the study, we noticed few parents have made it to post-compulsory level. It is typical for individuals in that generation in China to have lower education attainment. Even fewer people in that generation have received education that is higher than post-compulsory level. Therefore, the number of post-compulsory educational level parents is low in this sample. Meanwhile, the number of participants who received

financial aid is 237 (59.2%), and the number of them who have never is 163 (40.8%), which means that random sampling, produced a population for whom financial aid assists almost 60.0%.

Table 4 Characteristics of students

	Number	%
English	200	50.0
Computer Science	200	50.0
Rural	346	86.5
Urban	54	13.5
Female	205	51.2
Male	195	48.8
Father's education at primary level	140	35.3
Father's education at lower secondary level	184	46.3
Father's education at post-compulsory level	73	18.4
Mother's education at primary level	264	66.7
Mother's education at lower secondary level	111	28.0
Mother's education at post-compulsory level	21	5.3
Received aid	237	59.2
Never received aid	163	40.8

Table 5 shows the number and percentage of financial aid receivers and non-receivers within the categories of major, family origin, gender, and parents' educational level. The number of female receivers is more than male receivers with 150 female receivers (37.5%) and 87 male receivers (21.75%). Gender is approximate equally distributed in the sample, thus, female receivers are more than male receivers in the study. The receivers from rural area (54.0%) are more than the non-receivers from rural area (32.5%), while the receivers from urban area (5.2%) are fewer than the non-receivers from urban area (8.3%).

Table 5 Financial aid vs. Characteristics of students

	Non-receiver (N)	%	Receiver (N)	%
English	85	21.3	115	28.7
Computer Science	78	19.5	122	30.5
Rural	130	32.5	216	54.0
Urban	33	8.3	21	5.2
Female	55	13.75	150	37.5
Male	108	27.0	87	21.75
Father's education at primary level	54	13.6	86	21.7
Father's education at lower secondary level	75	18.9	109	27.5
Father's education at post-compulsory level	33	8.3	40	10.0
Mother's education at primary level	107	27.0	157	39.7
Mother's education at lower secondary level	44	11.1	67	16.9
Mother's education at post-compulsory level	11	2.8	10	2.5

Table 6 Family origin vs. gender

	Urban (N)	%	Rural (N)	%
Female	27	6.75%	178	44.5%
Male	27	6.75%	168	42.0%

Note: $p > 0.05$

Table 6 shows that 27 female students come from urban area and 27 male students come from urban area. The number of the female students from rural area is 178, and the number of male students from rural area is 168. Thus, female and male students are still approximately and equally distributed in the sample even when gender is paired with the location variable. The numbers of female and male students from different family origins are also approximately equal in the sample, so these results are not statistically significant.

5.2 Family Origin, Gender and Parents' Educational level on Student's Persistence, Motivation and Expectation

This section compares the observed frequencies or proportions of cases (student's persistence, studying motivation, and expectations) that occur in each category: student's family origin, student's gender, and parents' educational level. It investigates whether the student's family origin (*Hukou*), gender, and parents' educational level influence the student's persistence, motivation, and expectations.

Does the Student's Family Origin Influence His or Her Opinion of Persistence?

The researcher ascertained the students' persistence by asking the question, "If you do not receive financial aid will you have to quit college?" Because it would be difficult for the non-receivers to guess whether they would quit college without financial aid, this question was posed only to receivers.

Table 7 Student's family origin and Student's persistence (ONLY receivers)

	Urban (N)	%	Rural (N)	%
Persistence	16	6.8	171	72.1
Not persistence	5	2.1	45	19.0

Note: $p > 0.05$

Table 7 shows that 171 students (72.1%) from the rural area and 16 students (6.8%) from the urban area think that financial aid does not influence their persistence, while only 19.0% of the students from the rural area and 2.1% of the students from the urban area think that it does, thus, few students think that financial aid influence their persistence. The result is not statistically significant which means there is no association between the student's family origin and their persistence among financial aid receivers.

Student's Family Origin and Student's Motivation

Most of the parents from the rural area are farmers or without formal employment in China. The large gap in employment between urban and rural may cause the differences in student motivation. In the study, motivation has two categories which are the motivation to enhance social standing and the motivation to enhance economic status.

Table 8 Student's family origin and Student's motivation

	Urban (N)	%	Rural (N)	%
Enhance social standing	35	8.75	207	51.75
Enhance economic status	19	4.75	139	34.75

Note: $p > 0.05$

Table 8 shows the students who study to 'enhance social standing' are more numerous than those who study to 'enhance economic status,' which means that most of the students are motivated to study for enhancing their social standing. Meanwhile, 8.75% of the students from urban area and 51.75% of the students from rural area chose 'enhance social standing', while 4.75% of the students from urban area and 34.75% of the students from rural area chose 'enhance economic status.' This result is not statistically significant either, which means that the aspects of motivation do not differ between the rural and urban groups.

Student's Family Origin and Student's Expectation

As mentioned before, education as an investment in human capital theory shows that people would like to plan their futures by comparing the costs and benefits of major decisions. Do rural and urban students have different thoughts when they think about their future plans, high salary, high social standing or pursuing post-graduate studies?

Table 9 shows that most of the students in the entire sample expect to earn a high salary and to achieve a high social standing after graduating. There are 7.5% students

from urban area and 41.2% students from rural area who chose the expectation of having a high salary, while 5.2% students from urban area and 36.3% students from rural area chose the expectation of having high social standing. The percentage of students who chose high social standing is lower than those who chose a high salary, but this difference is so small that it is not statistically significant. These results indicate that there is no association between the students' family origin and their persistence, motivation, and expectations.

Table 9 Student's family origin and student's expectation

	Urban (N)	%	Rural (N)	%
High salary	30	7.5	165	41.2
Social standing	21	5.2	145	36.3
Post-graduate studies	3	0.8	36	9.0

Note: $p > 0.05$

Is There Gender Difference in Student's Persistence?

The gender of the students may influence their persistence. The analysis of this variable also considers only aid receivers.

Table 10 Student's gender and Student's persistence (ONLY receivers)

	Female (N)	%	Male (N)	%
Persistence	114	48.1	73	30.8
Not persistence	36	15.2	14	5.9

Note: $p > 0.05$

Table 10 reveals that, 114 female students (48.1%) think that they would not quit from the college even without financial aid, and 36 female students (15.2%) think that they might quit from the college without financial aid. Seventy-three male students (30.8%) think they would not quit from the college without financial aid, and only 14 (5.9%) male students think that they might quit without the aid. The result is not statistically significant, so there is no association between students' gender and their persistence among financial aid receivers.

Student's Gender and Student's Motivation

Is there a gender difference in students' motivation in this study? As Table 11 shows, 32.75% of female students and 27.75% of male students chose 'enhance social standing' as their motivation, while 18.5% female students and 21.0% male students think that their motivation to study is to enhance their economic status. The proportion of male students and female students who chose any given motivation is similar, so the result is not statistically significant. The aspects of motivation do not appear to differ between female and male students.

Table 11 Student's Gender and Student's Motivation

	Female (N)	%	Male(N)	%
Enhance social standing	131	32.75	111	27.75
Enhance economic status	74	18.5	84	21.0

Note: $p > 0.05$

Student's Gender and Student's Expectation

Different social needs between genders result in different motivations between genders. For example, female students tend to desire jobs in the government with high social standing. In contrast, male students prefer jobs with high salaries, because they think they anticipate being the backbone of their future the family in China. Is there a gender difference in students' expectations in this sample population?

Table 12 Student's gender and student's expectation

	Female (N)	%	Male (N)	%
High salary	80	20.0	115	28.7
Social standing	99	24.8	67	16.8
Post-graduate studies	26	6.5	13	3.2

Note: $p = 0.01$

Table 12 shows that most of the female students prefer to have jobs with high social standing, and most of the male students prefer to have jobs with high salaries. Of the female students, 24.8% chose to have a job with high social standing, while 28.7% of the male students preferred a job with a high salary. Eighty female students (around

20%) would like to get a high salary job, and 6.5% of the female students plan to continue to post-graduate study. Sixty-seven male students (around 16.8%) would like to get a job of high social standing, and 13 (around 3.2%) plan to continue to post-graduate study. The result is statistically significant at the 0.01 level. We can conclude that there is a significant difference between female students and their male counterparts in their career plans.

Overall, these results indicate that there is no association between the students' gender and their persistence or student's motivation, but there is an association between the students' gender and their expectations.

Will Parents' Educational Level Influence Student's Persistence?

Parents' educational level, which is one of the essential social backgrounds, can influence student's persistence. For instance a father with a doctoral degree will probably not only influence his child to complete college but also influence his child to earn a high degree. China has nine years of compulsory education, which runs from grade one to grade nine. We divided the parents' educational levels into three categories: 1 = primary level; 2 = lower secondary level; and 3 = post-compulsory level (upper secondary and higher).

Table 13 Father's educational levels and Student's persistence (ONLY receivers)

	Primary (N)	%	Lower Secondary (N)	%	Post-compulsory (N)	%
Persistence	58	24.7	91	38.7	37	15.7
Not persistence	28	11.9	18	7.7	3	1.3

Note: $p = 0.01$

Table 14 Mother's educational levels and Student's persistence (ONLY receivers)

	Primary (N)	%	Lower Secondary (N)	%	Post-compulsory (N)	%
Persistence	118	50.4	57	24.4	10	4.3
Not persistence	39	16.6	10	4.3	0	0.0

Note: $p > 0.05$

From Tables 13 and 14, we can see that 38.7% of the fathers have lower secondary education and think that financial aid will not influence his child's persistence, whereas 50.4% of the mothers have no more than a primary education level and think that they will not drop out from the college, even without financial aid. The result of the father's educational level and the students' persistence is statistically significant at the .00 level, while the result of the mother's educational level and the students' persistence is not statistically significant. This result means that there is an association between the father's educational level and the students' persistence and no association between the mother's educational level and the students' persistence.

Father's and Mother's Educational Levels and Student's Motivation

Individuals invest in education according to the time that they have to put into it as well as according to their family's background. We therefore expected the parents' educational level to influence the students' motivation. For example, a child whose father and/or mother has a lower level of education and lower social standing probably prefers to have a job with high social standing.

Tables 15 and 16 show that the number of the students who chose the motivation of enhancing social standing is larger than the number that chose improving economic status: 21.7% of the students whose fathers are at the primary education chose to enhance social standing and 13.6% of the students chose to enhance economic status. 28.9% of the students whose fathers are at the lower secondary level chose to enhance social standing and 17.4% of the students chose to enhance economic status. Meanwhile, 41.9% of the students whose mothers are at the primary education chose to enhance social standing and 24.8% of the students chose to enhance economic status, whereas 15.4% of the students whose mothers are at the lower secondary level chose to enhance social standing and 12.6% of the students chose to enhance economic status. The results are not statistically significant, so there appears to be no association between parents' educational level and students' motivation.

Table 15 Father's educational level and Student's motivation

	Primary (N)	%	Lower secondary (N)	%	Post-compulsory (N)	%
Enhance social standing	86	21.7	115	28.9	40	10.1
Enhance economic status	54	13.6	69	17.4	33	8.3

Note: $p > 0.05$

Table 16 Mother's educational level and Student's motivation

	Primary (N)	%	Lower secondary (N)	%	Post-compulsory (N)	%
Enhance social standing	166	41.9	61	15.4	13	3.3
Enhance economic status	98	24.8	50	12.6	8	2.0

Note: $p > 0.05$

Father's and Mother's Educational Levels and Student's Expectation

Table 17 and 18 show the parents' educational level versus the students' expectations. The number of students who chose to have a high salary job is always larger than the ones who chose to have a high social standing job, no matter what their parents' education are. The results of parent's educational level and student's expectation are not statistically significant. There is no association between parents' educational level and student's expectation in this case.

Table 17 Father's educational level and Student's expectation

	Primary (N)	%	Lower secondary (N)	%	Post-compulsory (N)	%
High salary	71	17.9	90	22.7	33	8.3
Social standing	58	14.6	76	19.1	30	7.6
Post-graduate studies	11	2.8	18	4.5	10	2.5

Note: $p > 0.05$

Table 18 Mother's educational level vs Student's expectation

	Primary (N)	%	Lower secondary (N)	%	Post-compulsory (N)	%
High salary	130	32.8	53	13.4	9	2.3
Social standing	110	27.8	48	12.1	7	1.8
Post-graduate studies	24	6.0	10	2.5	5	1.3

Note: p >0.05

Financial aid and student's persistence

Financial aid policy seems to have a significant effect on whether students complete their studies. We assume that financial aid is useful for students' persistence, but the most powerful opinion comes from the students who are involved in this policy. We found that most of the receivers, which total 187 students (78.9%), think that they would continue their studies even if they had no financial aid, while 50 (21.1%) of the receivers claimed that they would quit their studies if they could not continue to receive financial aid (see Table 19).

Table 19 Financial aid and student's persistence

	Receiver (N)	%
Persistence	187	78.9
Not Persistence	50	21.1

Financial aid and Student's Motivation

The financial aid policy's aim is to encourage students to attend and complete the college education, but does financial aid really influence students' motivation?

Table 20 Financial aid and student's motivation

	Non-receiver (N)	%	Receiver (N)	%
Enhance social standing	103	25.75	139	34.75
Enhance economic status	60	15.0	98	24.5

Note: p > 0.05

Table 20 shows that most of the participants chose to the improvement of social standing as their motivation, regardless of whether they have received aid.

Specifically, 25.75% of the students who have never received financial aid and 34.75% of the students who have received financial aid think that their motivation is to enhance their social standing, whereas 15.0% of the students who have not received financial aid and 24.5% of the students who have think that their motivation is to improve economic status. The result is not statistically significant, so there is no association between financial aid and students' motivation.

Financial Aid and Student's Expectation

More students would like to have a job with high salary in both the receiver and non-receiver groups (see Table 21). Twenty percent of the students who have not received the financial aid and 28.75% of the students who have received financial aid prefer to have a job with a high salary. In contrast, 16.75% of the non-receivers and 24.75% of the receivers prefer to have a job with high social standing. Thus, there appears to be no association between financial aid and the students' expectations.

Table 21 Financial aid and student's expectation

	Non-receiver (N)	%	Receiver (N)	%
High salary	80	20.0	115	28.75
Social standing	67	16.75	99	24.75
Post-graduate studies	16	4.0	23	5.75

Note: $p > 0.05$

All of the results suggest that financial aid does not influence persistence, motivation, or expectations.

In this section, we have discussed student persistence, motivation for studying and expectations between different family origins, genders, and financial aid groups. We found that only two groups are significantly different (see Table 22), which are gender vs. student's expectations and father's education vs. student's persistence. We can therefore conclude that only gender influences student's expectations.

Socio-economic backgrounds, such as family origin and parents' educational level, do not influence the students' persistence, motivation, and expectation.

Table 22 Statistic conclusion of social background, gender and financial aid on student's persistence, motivation and expectation

	Family origin	Gender	Father's education	Mother's education	Financial Aid
persistence	Non-significant	Non-significant	significant	Non-significant	Non-significant
motivation	Non-significant	Non-significant	Non-significant	Non-significant	Non-significant
expectation	Non-significant	significant	Non-significant	Non-significant	Non-significant

5.3 Family Origin, Gender, Parents' Educational Level and Financial Aid on Student GPA

A t-test was used to produce the results in this section, because Pallant (2010) recommended using an independent-samples t-test to compare the mean scores of two different groups when the continuous variable is present. GPAs give us mean scores that are easy to compare, so we compared the mean scores of the students' GPAs in these groups: family origin, gender, parents' educational level, and financial aid.

5.3.1 Family Origin, Gender and Parents' Educational Level vs. Student GPA

Student's Family Origin and Student GPA

The two variables that were used for this test are student's family origin (i.e., urban vs. rural) and student's GPA. Is there a significant difference in the mean GPA scores between rural and urban students?

Table 23 shows that students from rural area have a lower mean GPA score (1.98) than the students from urban area (2.26). The result is not statistically significant in the mean GPA scores for rural and urban students.

Table 23 Student's family origin and student GPA

	N	Mean	Std. Deviation
Rural	54	1.98	1.019
Urban	346	2.26	1.013

Note: t = 1.859 p >0.05

Student's Gender and Student GPA

The test checked for any gender-related differences on students' GPAs?

Table 24 Student's gender and student GPA

	N	Mean	Std. Deviation
Female	205	2.59	.985
Male	195	2.98	1.013

Note: t = 3.998 p < 0.05

There are 205 female students and 195 male students in this study. Table 24 shows that the mean GPA score of the male students is 2.98, and the female students' mean GPA is 2.59. The mean GPA score of the male students is higher than the female students. Therefore, a statistically significant difference exists in the students' GPA scores between genders.

Father's Educational Level and Student GPA

In order to see whether parents' educational level has an effect on students' GPA, we have divided parents' educational levels into three groups: primary level, lower secondary level, and post-compulsory level (upper secondary and higher). Here, we test accuracy of our assumption that parents with the compulsory level of education have children who earn higher GPAs than the children with parents lower than the

compulsory level.

Table 25 Father's educational level and student GPA

	N	Mean	Std. Deviation
Primary	140	2.30	1.001
Lower secondary	184	2.18	1.024
Post-compulsory	73	2.11	1.021

Note: p <0.05

Table 26 Mother's educational level and student GPA

	N	Mean	Std. Deviation
Primary	264	2.19	1.041
Lower secondary	111	2.23	.979
Post-compulsory	21	2.38	.921

Note: p <0.05

Tables 25 and 26 show the students' different mean scores between parents' educational levels. The higher the fathers' educational level is, the lower the mean score that the students earn. From primary level to post-compulsory level, the students' mean score drops from 2.30 to 2.11. The higher the mothers' educational level is, the higher mean score that the students earn. From primary level to post-compulsory level, the student's mean score rises from 2.19 to 2.38. Mothers' educational level may influence students' GPA, while fathers have the opposite influence. The result is a statistically significant difference in the student's GPA scores between the different levels of parents' education.

5.3.2 Financial Aid and Student GPA

The main purpose of this study is to measure whether financial aid will influence student success. GPA is the most objective evaluation for judging the student success,

so this section will measure whether financial aid influences GPA.

Table 27 Financial aid and student GPA

	N	Mean	Std. Deviation
Non-receiver	163	1.82	1.071
Receiver	237	2.49	.881

Note: $t = 6.854$ $p < 0.05$

One hundred and sixty-three of the students have not received financial aid and 237 have already received financial aid. Table 27 shows the mean score of the non-receivers, which is 1.82. This score is lower than the receivers' mean score, which is 2.49. The mean GPA score of the receivers is higher than non-receivers. In this case, there is a statistically significant difference in the mean GPA scores between receivers and non-receivers.

5.3.3 Discussion

We use the t-test to evaluate whether family origin, gender, parents' educational level and financial aid affect the student's GPA. After testing the different independent variables, we notices a significant difference in the mean GPA scores between the student's gender, parents' educational level and financial aid. In order to ensure that there is an interaction between family origins, parents' educational level, and financial aid, the following section will use a two-way ANOVA analysis to test the interaction on the mean GPA scores between family origin, parents' educational level, and financial aid.

5.4 Family's Origin, Parents' Educational Level, Financial Aid, and GPA

We used a two-way between-groups analysis of variance to explore the interaction effect between family's origin and financial aid and, parents' educational level and financial aid on student GPA. The purpose of this test is to explore whether family's

origin and financial aid or parents' educational level and financial aid will have an interaction effect on student's GPA. Pallant (2010) indicates an interaction effect occurs when the effect of one independent viable on the dependent viable depends on a second independent viable. We divided the variables into three groups to explore whether there is an interaction effect between family origin and financial aid, father's educational level and financial aid, and mother's educational level and financial aid.

5.4.1 Family Origin and Financial Aid on Student GPA

We already know that the receivers are more than non-receivers in the rural area group, while receivers are fewer than non-receivers in the urban area group. A higher percentage of students from rural area (54.0%) receive aid than do not (32.5%), while there are fewer receivers from urban area (5.2%) than there are non-receivers (8.2%) (see Table 5). This part explores whether family origin and financial aid has an interaction effect on student's GPA.

Table 28 Family origin and financial aid on student GPA

	Mean
Urban	1.98
Rural	2.26
Non-receiver	1.82
Receiver	2.49
Urban (non-receiver)	1.85
Rural (non-receiver)	1.82
Urban (receiver)	2.19
Rural (receiver)	2.52

Note: $p > 0.05$

Table 28 shows that the mean GPA score (1.98) of students from urban area is lower than that of the students from rural area (2.26). Similarly, the non-receivers' mean GPA score (1.82) is lower than the receivers' (2.49). However, the mean GPA score of the non-receivers from urban area is 1.85, which is higher than the mean GPA of non-receivers from rural area, which is 1.82. The mean GPA score of receivers from urban area is 2.19, and is lower than that of receivers from rural area, which is 2.52.

The mean GPA score of non-receivers from urban area (1.85) is lower than that of receivers from urban area (2.19), while the mean GPA score of non-receivers from rural area (1.82) is lower than that of receivers from rural area, which is 2.52.

Figure 3 helps us to inspect visually the relationship among the groups (family origin and financial aid). The students who have already received financial aid get higher mean GPA scores than the students who have never received financial aid. Students from urban area have lower mean GPA score than the students from rural area do. Receivers from urban area get a higher mean GPA score than do the non-receivers from urban area, and the receivers from rural area also a get higher mean GPA score than do the non-receivers from rural area. Therefore, no matter what their family origin is, the receivers always earn a higher mean GPA score than the non-receivers do. The interaction effect between family origin and financial aid on student GPA is not statistically significant.

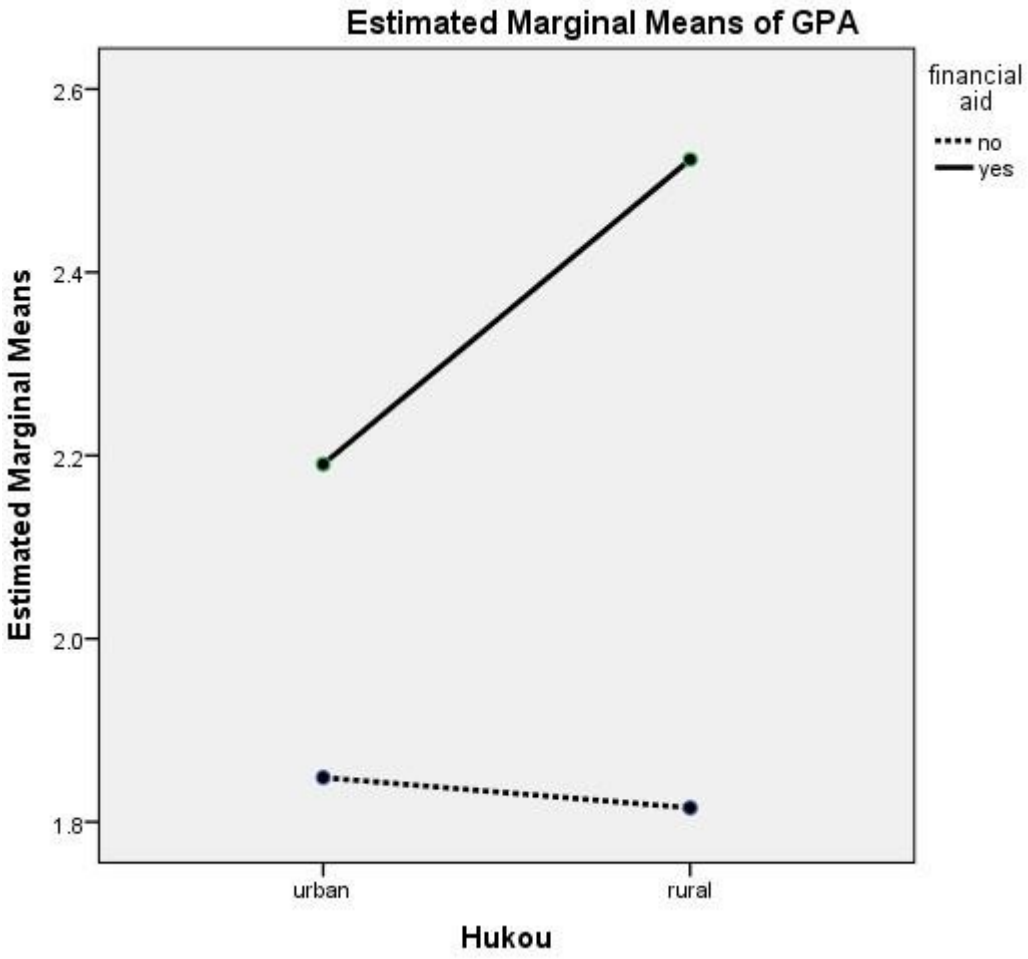

Figure 3 Family origin and financial aid on student GPA

5.4.2 Parents' Educational Level, Financial Aid and GPA

This part explores whether there are interaction effects between the parents' educational level and financial aid on the student's GPA.

Table 29 Father's educational level and financial aid on student GPA

	Mean
Primary	2.30
Lower secondary	2.18
Post-compulsory	2.11
Non-receiver	1.82
Receiver	2.49
Primary (Non-receiver)	1.81
Lower secondary (Non-receiver)	1.80
Post-compulsory (Non-receiver)	1.85
Primary (Receiver)	2.60
Lower secondary (Receiver)	2.45
Post-compulsory (Receiver)	2.32

Note: $p > 0.05$

Table 29 shows the higher the father's educational level is, the lower student's mean GPA score is. The mean GPA score of non-receivers whose fathers are in the primary level (1.81) is higher than that of the non-receivers' whose fathers are in the lower secondary level (1.80). The highest mean score comes from non-receivers whose fathers are in the post-compulsory level (1.85). For the receivers, the higher the father's educational level is, the lower the student's mean GPA score is. The mean GPA score of receivers whose fathers are in the primary level (2.60) is higher than that of the non-receivers' whose fathers are in the primary secondary level (1.81). The mean GPA score of receivers whose fathers are in the lower secondary level (2.45) is

higher than that of the non-receivers' (1.80). The mean GPA score of receivers whose fathers are in the post-compulsory level (2.32) is higher than that of the non-receivers' (1.85).

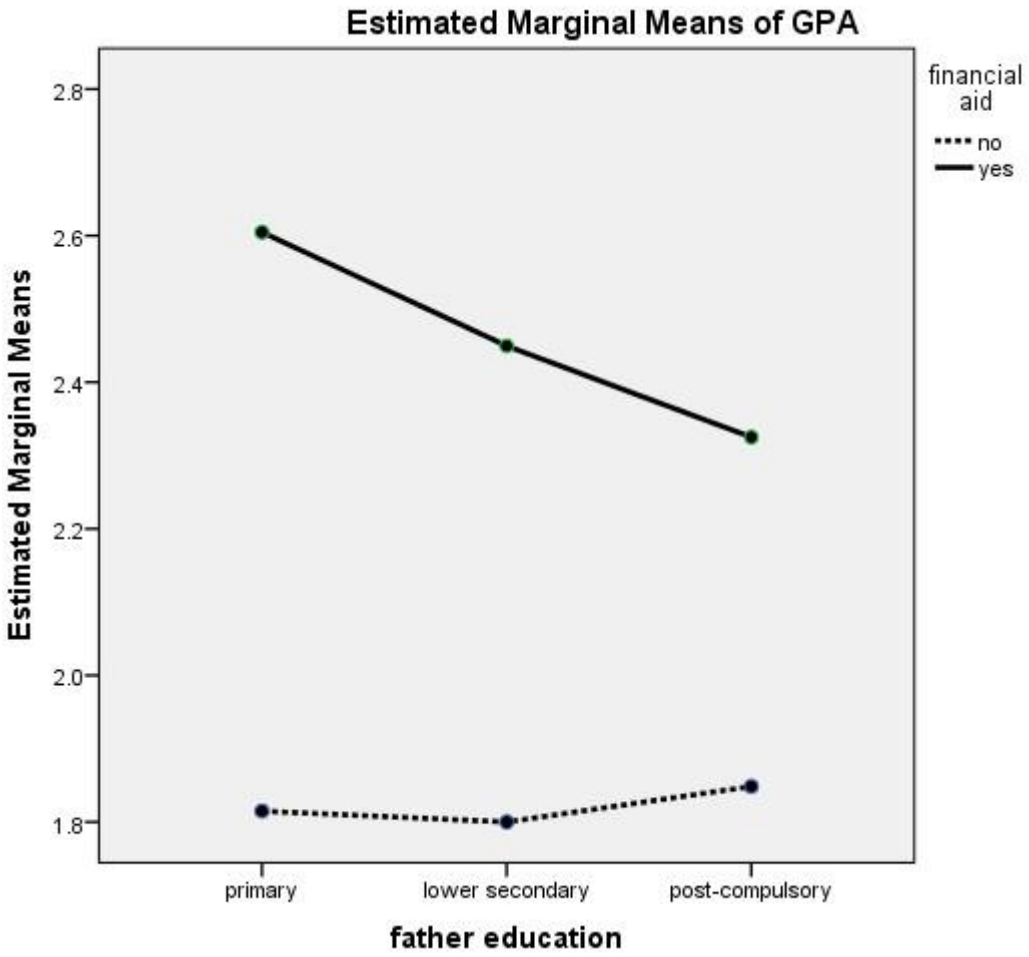

Figure 4 Father's educational level, financial aid on student GPA

Figure 4 helps us to see the relationship among the groups (father's educational level and financial aid). The higher the father's educational level is, the lower the student's mean GPA score is. The receivers whose father's education is in the primary level earned a higher mean GPA score than did the non-receivers whose father's education is in the primary level. The receivers whose father's education is in the lower secondary or post-compulsory level always get higher mean GPA scores than do the non-receivers who father's education is in the lower secondary or post-compulsory

level. Therefore, no matter what the father's education is, the receivers always get higher mean GPA scores than the non-receivers do. The interaction effect between father's educational level and aid is not statistically significant.

Table 30 Mother's educational level and financial aid on student GPA

	Mean
Primary	2.19
Lower secondary	2.23
Post-compulsory	2.38
Non-receiver	1.82
Receiver	2.49
Primary (Non-receiver)	1.77
Lower secondary (Non-receiver)	1.93
Post-compulsory (Non-receiver)	1.91
Primary (Receiver)	2.48
Lower secondary (Receiver)	2.42
Post-compulsory (Receiver)	2.90

Note: $p > 0.05$

Table 30 shows the higher the mother's educational level is, the higher the student's mean GPA score is. For the non-receivers, students whose mothers are in the primary level have the lowest mean GPA score (1.77), while those whose mothers have received lower secondary education have the highest mean GPA score (1.93). For the receivers, students whose mothers are in the lower secondary level have the lowest mean GPA score (2.42), while those of mothers with post-compulsory education have the highest mean GPA score (2.90). The mean GPA score of receivers whose mothers are in the primary level (2.48) is higher than that of the non-receivers' whose mothers are in the primary secondary level (1.77). The mean GPA score of receivers whose mothers are in the lower secondary level (2.42) is higher than that of the

non-receivers' (1.93). The mean GPA score of receivers whose mothers are in the post-compulsory level (2.90) is higher than that of the non-receivers' (1.91).

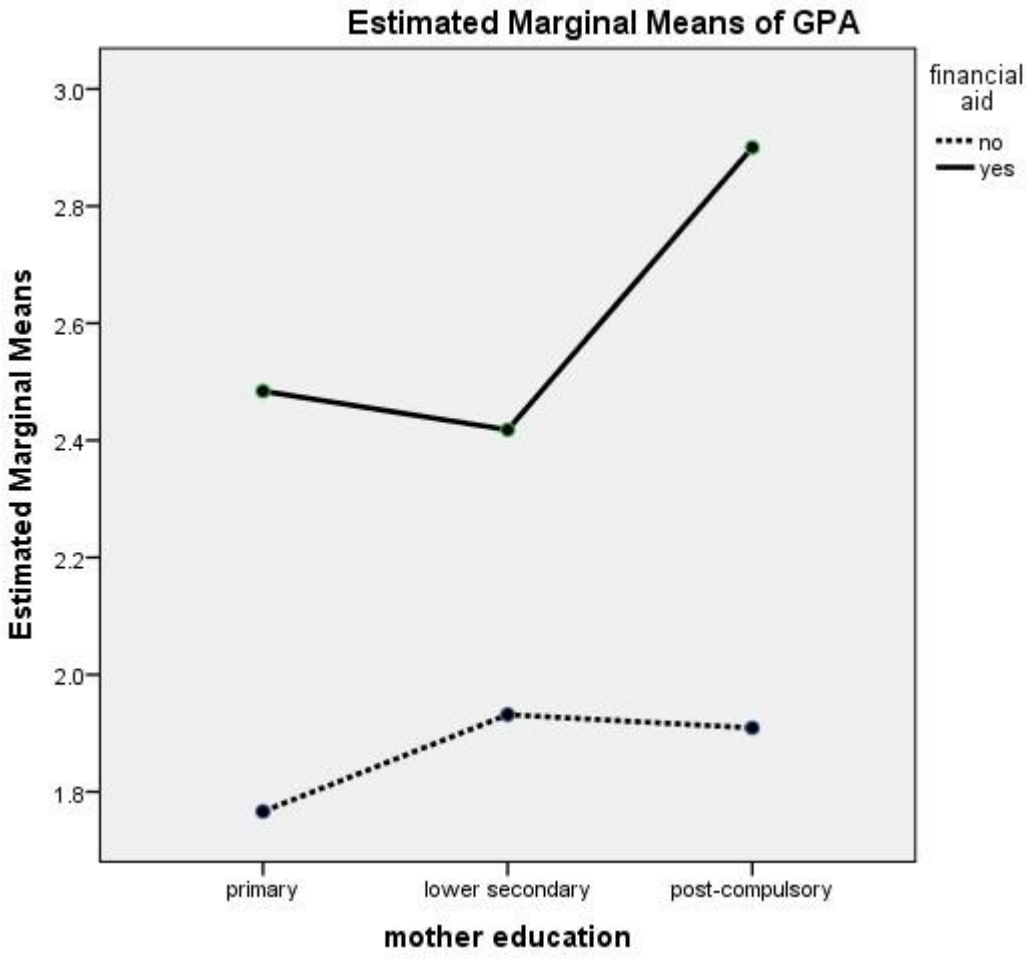

Figure 5 Mother's educational level, financial aid on student GPA

Figure 5 helps us to inspect visually the relationship among the groups (mother's educational level and financial aid). The higher the mother's educational level is, the higher the student's mean GPA score is. The receivers whose mother's education is in the primary level earn a higher mean GPA score than do the non-receivers whose mother's education is in the primary level. The receivers whose mother's education is in the lower secondary or post-compulsory level always get higher mean GPA scores than do the non-receivers whose mother's education is in the lower secondary or post-compulsory level. No matter what the mother's education is, the receivers always

earn higher mean GPA scores than do the non-receivers. The interaction effect between mother's educational level and aid is therefore not statistically significant.

5.5 Discussion

In the first part of this chapter, we discussed the association between student's family origin, student's gender, and parents' educational level versus the student's persistence, motivation, and expectations. The chi-square test results show that statistically significant associations exist only between the student's gender and the student's expectations, father's educational level and student's persistence. The data show that more female students are interested in the jobs with high social standing while more male students prefer to get a job with a high salary, probably because males in China think they anticipate being the backbone of their future the family.

The t-test analyses show significant associations between student's gender and GPA, parents' educational level and GPA, and financial aid and GPA. The students who have received the financial aid have higher GPAs than the ones who never have had it, which means that financial aid has a positive relation to a student's GPA. The results also show significant associations between parents' educational level and GPA. The higher the father's educational level is, the lower the student's mean GPA score is, while the higher the mother's educational level is, the higher the student's mean GPA score is. This probably because mother always takes care of the child's life and study, whereas father is considered as the backbone to be out for earning money in one family in China. Thus, mother's educational level may influence student's GPA in some aspects. The mean GPA score of male students is higher than that of females. Thus, these three results are statistically significant.

Lastly, we found that there is no significant interaction effect of family origin and financial aid on GPA or of, parents' educational level and financial aid on student GPA.

Chapter 6 Conclusion

This chapter provides a summary of the study, and then it discusses the effects of financial aid. Finally, it investigates the limitation of the study and the implications for future research.

6.1 Summary of this Study

The purpose of this study is to invest the effect of gender, financial aid, and socio-economic background (such as family's origin and parents' educational level) on a student's persistence, motivation, expectations and GPA. This study has analyzed whether student's socio-economic background, gender, and financial aid status influence their persistence, motivation, and expectations. It also has analyzed mean GPA scores under the students' different socio-economic backgrounds, genders and financial aid statuses.

The overall analysis of the theoretical framework revealed that socio-economic backgrounds probably bear a correlation to student's persistence, motivation, and expectations. According to Stater (2009), finances affect academic achievement, because academic effort is part of the sequence of decisions that leads to persistence. The analysis also revealed that gender is the only variable that influences students' expectations and that the father's educational level is associated with the student's persistence. Student's family origin, mother's educational level, and financial aid have no association with student's persistence, motivation, and expectations in this study.

Another main purpose of this study is to explore the effect of gender, financial aid and socio-economic background on student GPA. Different social backgrounds, genders, and financial aid statuses can influence mean GPA scores. The analysis shows that

gender, parents' educational level and financial aid have a correlation with students' GPA. The female students get a lower mean GPA score than do the male students. In addition, the higher the father's educational level is, the lower the students' mean GPA is. In contrast, the higher the mother's educational level is, the higher the students' mean GPA is. This result means that the mother's educational level might increase GPA, whereas the father's education can have the opposite effect. The receivers get higher mean GPA scores than do non-receivers, which mean financial aid does have an impact on students' GPAs. There is no statistically significant interaction effect of family origin and financial aid on GPA or of, parents' educational level and financial aid on GPA.

6.2 Effect of Financial Aid

During the field work, the researcher interviewed two instructors informally, and the instructors explained that the criteria for financial aid qualification are based on the student's family background. They emphasized that the process of choosing the qualified students did not involve grades in any way. The analysis shows that the mean GPA score of the receivers is higher than that of the non-receivers, even if they are from different social and economic backgrounds. These results show that financial aid does have influence on student GPA, and they support the notion that need-based financial aid should have a positive effect on the outcomes of low-income students and could ultimately encourage them to have higher achievement. Once they receive the financial aid (and it does not matter when they acquired the financial aid), they earned a higher GPA and thus became good students.

With the increasing cost of higher education, the institutions are under pressure to ensure that if their students are successful. Fortunately, we have found that financial aid is a good tool for HEIs. Parents would like to know whether higher education can help their children to achieve a great future, and the present results might give policy-makers and the government encouragement to improve funding. In addition, the

current amount of need-based financial aid is far from enough to cover the students' living costs. More aid policies need to be established to satisfy a wider range of education-related needs. In short, as higher education in China expands, its funding should expand. The policy-makers, government, companies, and colleges should support one another more, because they have a long way to go to improve this system.

6.3 Limitation of the study

There are some limitations to this study. Firstly, it does not explore whether financial aid actually reaches the needy students. There are very few statistical documents that show how many students have not attended college because of poverty. Secondly, it is hard to tell whether the students have performed well from the moment they entered college or have performed far better since receiving the financial aid. This limitation relates to the third limitation, which is that we investigated only two aspects of financial aid: whether students are receivers or non-receivers. We did not include the times when the students received their financial aid, and this timing might have an impact. The last limitation of the research is the location. The researcher sampled only one college, and this school might not represent the overall situation of China.

6.4 Implications of Future Research

This study was conducted on only one college campus, so future research should cover numerous colleges and universities. More comprehensive coverage could represent the whole of China more accurately. Other researchers should also consider student success before and after receiving the financial aid. Thus, they could have a comparison to measure the effect of financial aid. Finally, future studies could also examine whether the time that students receive financial aid influences student success.

References

Altbach, P. G. (2004). Globalization and the College: Myths and Realities in an Unequal World, in National Education Association (ed.), *The NEA 2005 Almanac od Higher Education*. Washington, DC: National Education Association

Angela, B. and Bridget, T. L. (2009). Does Financial Aid Impact College Student Engagement? The Effects of the Gates Millennium Scholars Program. Harvard Graduate School of Education and NBER

Bao, W. and Liu, Y.H. (2009). Empirical Analysis of Regional Disparities in Chinese Higher Education Resource Allocation from Equity Perspective. *Peking College Economics of Education Research*, 7(1): 1-23

Becker, G. (1962). Investment in Human Capital: A Theoretical Analysis. *Journal of Political Economy*, 70(5): 9-49

Babbie, E. (2007). The Practice of Social Research 11th ed. Thomson Wadsworth: Belmont, CA

Becker, G. S., (1964). Human Capital: a Theoretical and Empirical Analysis with Special Reference to Education

Bourdieu, P. (1973). "Cultural Reproduction and Social Reproduction." in Knowledge, Education, and Cultural Change: Papers in the Sociology of Education, edited by Richard Brown. London: Tavistock

Bourdieu, P. (1984). Distinction: A Social Critique of the Judgement of Taste. Cambridge, MA: Harvard College Press

Bourdieu, P. (1986). The Forms of Capital. In J.G. Richardson (ed.), Handbook of Theory and Research for the Sociology of Education. New York: Greenwood

Press

Bryman, A. (2008). Social Research Methods. New York: Oxford College Press

Calum, M.（2001）. "China Reviews ‘Apartheid’ for 900m Peasants". Then Independent

Canton, E. and Blom, A. (2004). Do Student Loans Improve Accessibility to Higer Education and Student Performance? An Impact Study of the SOFES Program in Mexico. The World Bank: CPB Discussion Paper

Casson, R. J. (2011), "The Pesty P value". Clinical and Experimental Ophthalmology, 39: 849–850. doi: 10.1111/j.1442-9071.2011.02707.x

Chan, K. (2010). The Household Registration System and Migrant Labor in China: Notes on a Debate. *Population and Development Review*, 36:2, 357-364

China State Council, 2006, The Research Report on Chinese Rural-Urban Migrants *(Zhongguo Nongmingong Diaoyan Baogao)*. Beijing: China Yanshi Publishing House.

Cohen, J.W. (1988). Statistical Power Analysis for the Behavioral Science (2nd edn). Hillsdale, NJ: Lawrence Erlbaum Associates

Cui, B. (2007). Jiayubu: Gaoxiao Xuefei Biaozhun Pingjun 4500 yuan 【Ministry of Education: College tuition standard average at 4500 yuan 】. Accessed 08.12.08

David, D. D. (2003). Allowing the Marketto Rule: The Case of the United States. Higher Education Quarterly

Dumais, S., (2002) “Cultural Capital, Gender, and School Success: the Role of Habitus” in *Sociology of Education 75*, i.1: 44–68

Eddy, L and Marco, V. (2006). The Social Impact of Globalization in the Developing Countries. Discussion Paper No. 1925

Edward, P. S., Chung,C. (2004). Student Aid and Major Choice: A Study of High-Achieving Students of Color. Bloomington: Indiana College

Ethel, B. and John D. J. (1990). College Grade and Labor Marketrewards. *The Journal of Human Resources*, Vol.25 No.2: 253-266

Fitzsimons, P. (1999). Human Capital Theory and Education. College of Auckland

Gary T. H. and Rubenstein, R. (2002). Paying for Grades: Impact of Merit-based Financial Aid on Education Quality. *Journal of Policy Analysis and Management*, Vol.21, No.1: 93-109

Gingrich, P. (1993). Introductory Statistics for the Social Sciences. Regina: College of Regin

Goodburn, C. (2009). Learning from Migrant Education: A Case Study of the Schooling of Rural Migrant Children in Beijing. *International Journal of Educational Development*, 29: 495-504.

Goodman, S.N. (1999). "Toward Evidence-Based Medical Statistics. 1: The P Value Fallacy.". *Annals of Internal Medicine*, 130: 995–1004

Hans. J. B, Steiner, V. (2004). Enrolment into Higher Education and Changes in Repayment Obligations of Student Aid. Berlin: German Institute for Economic Research

Hyman, H. H., with William J. C, Jacob J. F, Clyde W. H. and Stember, C. H. (1954). Interviewing in Social Research. College of Chicago Press

Hungerford, T., and Solon, G. (1987). Sheepskin Effects in the Returns to Education. *Review of Economics and Statistics*, 69: 175-177

Kane, J. and Spizman, L.M. (1994). Race, Financial Aid Awards and College Attendance: Parents and Geography Matter. *American Journal of Economics and sociology*, 53 (1): 85-97

Kabeer, N. (2000). Social Exclusion, Poverty and Discrimination. *IDS Bulletin*, 31: 4, 83-97

Kleven (2007). Validity and Validation in Qualitative and Quantitative Research. *Nordisk Pedagogik*, (28): 219-233

Leroy, A. (2011). Human Capital Theory: Implications for Educational Development. *Belize Country Conference*

Li, W.; Min, W. (2001). The Private Demand, Tuition and Higher Education in China. *Paper presented at the International Conference on Economics of Education*, Peking College, Beijing

Liu, C., Zhang, L., Luo, R., Wang, X., Rozelle, S., Sharbono, B., Adams, J., Shi, Y., Yue, A., Li, H., Glauben, T. (2011). Early Commitment on Financial Aid and College Decision Making of Poor Students: Evidence from a Randomized Evaluation in Rural China. *Economic of Education Review*, 30: 627-640

Liu, X., Luo, R., Liu, C., Zhang, L. (2007). The Cost of Going to Senior High Schools in Rural China. *Working Paper WP-07-C8*, Northwest Socio-economic Development Research Center, Shaanxi, China

Maria.C, Louis.V.B. (2005). Teaching in Private Schools. *A Publication of the World Confederation of Teachers (WCT)*. Belgium: Brussels

Maslen, G. (2000). V-c Says Scrap State Red Tape. *Times Higher Education*

McClelland, K. (1990). "Cumulative Disadvantage Among the Highly Ambitious." Sociology of Education 63:102-21

Min, W. (2001). Economics of Education at Peking College.retrospect and Prospect. *Paper presented at the International Conference on Economics of Education*, Peking College, Beijing

Minstry of Education. (2007). http://www.moe.edu.cn/

National Bureau of Statistics of the P.R. China. (2006). The Provision on Delimiting Urban and Rural Area for Statistics. Retrieved on 25th, May 2011 from http://www.stats.gov.cn/tjbz/t20061018_402603208.htm

National Bureau of Statistics. (2008). *China statistical yearbook 2008*. Beijing, China: China Statistics Press

Net, XinHua (2005). Nv'er Kaoshang Daxue, Muqin Zisha Zaici Baolu Zhukun "Ruanlei [Daughter Admitted to College, but Mother Committed Suicide, Again Revealing the Inability of Financial Aid to Help the Poor]. http://news.xinhuanet.com/edu/2005-09/21/content_3519947.htm last date accessed, Dec. 8, 2008

Oppenhiem, A.N. (1966). Questionnaire Design and Attitude Measurement. New York. Basic Book Inc

Pallant. J. (2010). SPSS Survival Manual. Berkshire: Open College Press

Peng, Y. S. and Treiman, D. J. (1993). Occupational Differences in Patterns of Cultural and Material Consumption in Four Countries: Australia, Denmark, Hungary and the Netherlands. In Nan Dirk De Graaf, M. D. R. Evans, & Harry B. G. (Eds.) Life Style and Social Stratification: Studies in the Consequences and Correlates of Social Stratification. Ganzeboom Press

Prashant.L, Song Y, Wei J. (2012). The Distribution of Financial Aid in China: Is Aid Reaching Poor Students? *China Economic Review*, 23: 898-917

Rich, M. J., Giles, M. W., and Stern, E. (2001). Welfare Reform on the Web (February 2002): Education – Overseas. *Urban Affairs Review*, vol. 37, 2001: 184-204

Sheng, H., Li, W. (2003). A Review of Student Loan Schemes in China. *International Institute for Education Planning*: UNESCO Bangkok

Sicular, T., Yue, X., Gustafsson, B. and Li, S. (2007). The Urban–Rural Income Gap and Inequality in China. *Review of Income and Wealth*, 53 (1): 93-126

Stater. M. (2009). The Impact of Financial Aid on College GPA at Three Flagship Public Institutions. *American Education Research Journal*: Vol. 46, No.3: 782-815

St. John, E.P. (1994). Assessing Tuition and Student Aid Strategies: Using Price Response Measures to Simulate Pricing Alternatives. *Research in Higher Education*, 35: 301-334

St.John, E.P., Paulsen, M. B., and Starkey, J. B. (1996). The Nexus Between College Choice and Persistence. *Research in Higher Education*, 37: 175-220

Tirupathi R., Chandrupatla. (2009). Quality and Reliability in Engineering. Rowan College: New Jersey

UNESCO (1997). Adult Education in a Polarizing World. Paris, UNESCO

Wang, R., Wei, J., Yang, P., and Yi, Q. (2008). Chinese Higher Education Finance: Issues and Challenges. *Paper presented at the Financing Higher Education and Economic Development in East Asia*, Bangkok, Thailand

Wang, X., Piesse, J. and Weaver, N. (2010). Mind the Gaps: A Political Economy of the Multiple Dimensions of China's Rural-Urban Divide. Manchester: The University of Manchester

Wen, L., Wei, M. (2001). Tuition, Private Demand and Higher Education in China. Graduate school of education, Peking College: Beijing

Wikipedia (2013). Academic Grading in China. Retrieved April 8. 2013 From: http://en.wikipedia.org/wiki/Academic_grading_in_China

Wikipedia (2013). Hukou System. Retrieved May 1. 2013, From: http://en.wikipedia.org/wiki/Hukou_system

Wikipedia. (2013). P-value. Retrieved March 10. 2013, From: http://en.wikipedia.org/wiki/P-value

Yang, Z. (2009). Mobilization of Chinese Rural Population under Dual Structure. *Journal of South-Central University for Nationalities (Humanities and Social Science)*, 29: 3, 98-100

Yin, Q. and White, G. (1994). The Stateretization of Chinese Higher Education: a Critical Assessment. *Comparative Education*, 30-3

Yu, Y. (2008). Wei Daxue Xuefei er Bianbu (Defending for College Tuition). *Jiaoyu Pinglun (Education Review)*, 1: 20-24

Zhu, J. (2011). Who Goes To University? Inequality in Access to Higher Education in China 1949-2005. Master thesis. Oslo: University of Oslo.

Appendix: Questionnaire

Dear students:

The questionnaire is used to collect data for doing the research on whether financial aid will influence student's success.

Department of English and Department of Computer Science were chosen to be the base of this questionnaire investigation.

You are one of these 400 chosen students in this college.

Please read each question carefully and answer as accurately as you can.

Your answers will be kept confidential, and will only be accessible by the researcher.

Thank you!

Attention: The question is printed double-sided; Please do not miss any question.

1. Your department: 1) English; 2) Computer Science

2. Gender: 1) Female; 2) Male

3. Your family origin : 1) Urban; 2) Rural

4. Have you received the financial aid?

   1) Never; 2) Received

5. Your father's educational level:

   1) Primary; 2) Lower secondary; 3) Post-compulsory

6. Your father's educational level:

   1) Primary; 2) Lower secondary; 3) Post-compulsory

7. If you do not receive financial aid will you have to quit college?

1) no; 2) yes

8. What is your GPA last semester?

1) GPA 4; 2) GPA 3; 3) GPA 2; 4) GPA1; 5) others

9. What is your motivation to go to the college?

1) Enhance social standing; 2) Enhance economic status

10. What is your expectation for the future?

1) Have a job with high salary; 2) Have a job with high social standing;

3) Continue to post-graduate studies.

11. What is your opinion of financial aid policy?